

**Notes on Buprestid Beetles (Coleoptera, Buprestidae) from Thailand, IX.
A Key to the Species of the Genus *Philanthaxia* DEYROLLE, 1865 from
Thailand, with Description of a New Species**

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Abstract *Philanthaxia takakuwai* sp. nov. is described from Thailand. A key to the 16 species of *Philanthaxia* known from Thailand is given.

The genus *Philanthaxia* DEYROLLE, 1865 was first reviewed by BILY (1993), and BILY (1997, 2001, 2004) added some new species. Up to now, 59 species are known in *Philanthaxia*. According to a revision of *Philanthaxia* (BILY, 2001) and descriptions of additional species (BILY, 2004), 15 species of the genus *Philanthaxia* are known from Thailand. Recently, I found a new species of *Philanthaxia* from Thailand. In this paper, I describe this new species and give a key of all 16 species known from Thailand.

Before going further, I wish to express my sincere thanks to Dr. Svatopluk BILY, National Museum, Czech Republic, for his valuable information and literatures. I also wish to express my sincere gratitude to Dr. Masatoshi TAKAKUWA, Kanagawa Prefecture Museum of Natural History (KPMNH), Odawara, for kindly offering the materials.

The other abbreviations used in this study are as follows: NSMT (National Museum of Nature and Science, Tokyo) and COTJ (Collection of S. OHMOMO, Tsukuba, Japan). The holotype is deposited in NSMT.

Genus *Philanthaxia* DEYROLLE, 1865

Philanthaxia DEYROLLE, 1865, 72 [Type species: *Philanthaxia cruta* DEYROLLE, 1865].
Engycera SAUNDERS, 1866, 308 [Synonym of *Philanthaxia*].

The genus *Philanthaxia* DEYROLLE, 1865 was placed in the tribe Thomassetiini of the subfamily Buprestinae LEACH, 1815 by BELLAMY in BELLAMY *et al.* (1987). This genus is a dominant group in the Oriental tropical and subtropical regions including Yaeyama Islands, the Ryukyus, Japan and Taiwan.

Body shape is usually elongate, sub-elliptical or sometimes short and oval. Body is entirely hairless. Coloration varies from black-blue or dark bronze to golden green with purple or orange elytral margins. This group is principally divided into two groups: 1) species with convex frons and 2) species with flat or depressed frons. Moreover, each group is divided into two subgroups: 1) species with long and slender claws only slightly enlarged at the base and 2) species with more robust claws bear large tooth at the base.

Philanthaxia takakuwai OHMOMO, sp. nov.

(Figs. 1, 2-a)

Type locality. Huai Muang (alt. 330 m), Suan Phueng, Ratchaburi Prov., W-Thailand.*Type specimens.* Holotype, ♂, Huai Muang, Suan Phueng, Ratchaburi Prov., W-Thailand, 14 to 16-V-2010, M. TAKAKUWA leg. (NSMT). Paratypes, 5 ♂♂ and 1 ♀, same data as holotype (COTJ), 1 ♂, same data as holotype (KPMNH).*Description.* Length, male, 7.1–8.8 mm (holotype 7.8 mm) and female, 10.0 mm. Width, male, 2.7–3.3 mm (holotype 2.8 mm) and female, 3.7 mm. Medium-sized, elongate, moderately convex (Fig. 2-a); frons and vertex golden green with the base of vertex golden red; pronotum golden red with large golden blueish-green marking on the center and lateral side golden green; elytra golden blueish-green with lateral side golden red; antennae, scutellum and legs golden blueish-green; ventral surface golden green.

Head rather large, frons slightly convex, punctuated densely, with shallow groove on vertex; antennae slender, not reaching posterior pronotal angles, 1st antennomere long and fusiform and about 3 times longer than 2nd one, 2nd one stout, 3rd one slender and 1.5 times longer than 2nd one, 4th and 5th one slender and 2.0 times longer than 2nd one; eyes rather large, widely elliptical, slightly projecting beyond outline of head.

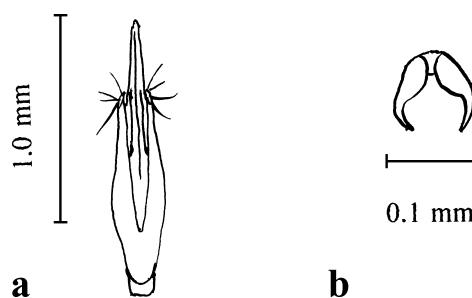
Pronotum nearly trapezoidal, 1.5 times as wide as long, posterior margin 1.3 times as wide as anterior margin, lateral sides nearly straight only indistinctly incurved before posterior angles; anterior margin rather strongly bisinuous, posterior margin slightly trisinuous; surface punctuated densely with transvers wrinkles at basal half of center, lateroposterior pronotal depressions wide and shallow; prosternal process flat, sculptured largely and densely, feebly acuminate posteriorly with obtusely pointed apex. Scutellum moderate, flat, sub-cordiform, 1.5 times as wide as long.

Elytra rather flat and not cordiform, with 9 striae, interstices finely and densely, transversally wrinkled, 1.9 times as long as wide with well-developed humeral swellings; nearly parallel-sided in basal two-thirds; apical one-third of elytral margins finely serrate; each elytron rounded separately, basal transverse depressions rather deep.

Ventral surface roughly reticulate with inconspicuous pale yellow hairs sparsely and in only prosternal part roughly ocellate. Legs moderately long and slender, tibiae not modified. Claws long, slender, regularly arcuate, only slightly enlarged at base (Fig. 1-b).

Aedeagus (Fig. 1-a) long, slender; medial lobe pointed apically.

Female. Differs from male by somewhat more robust body.

Etymology. This species is named after the collector, my friend and colleague Dr. Masataka TAKAKUWA.Fig. 1. Male genitalia (a) and claw (b) of *Philanthaxia takakuwai* sp. nov.

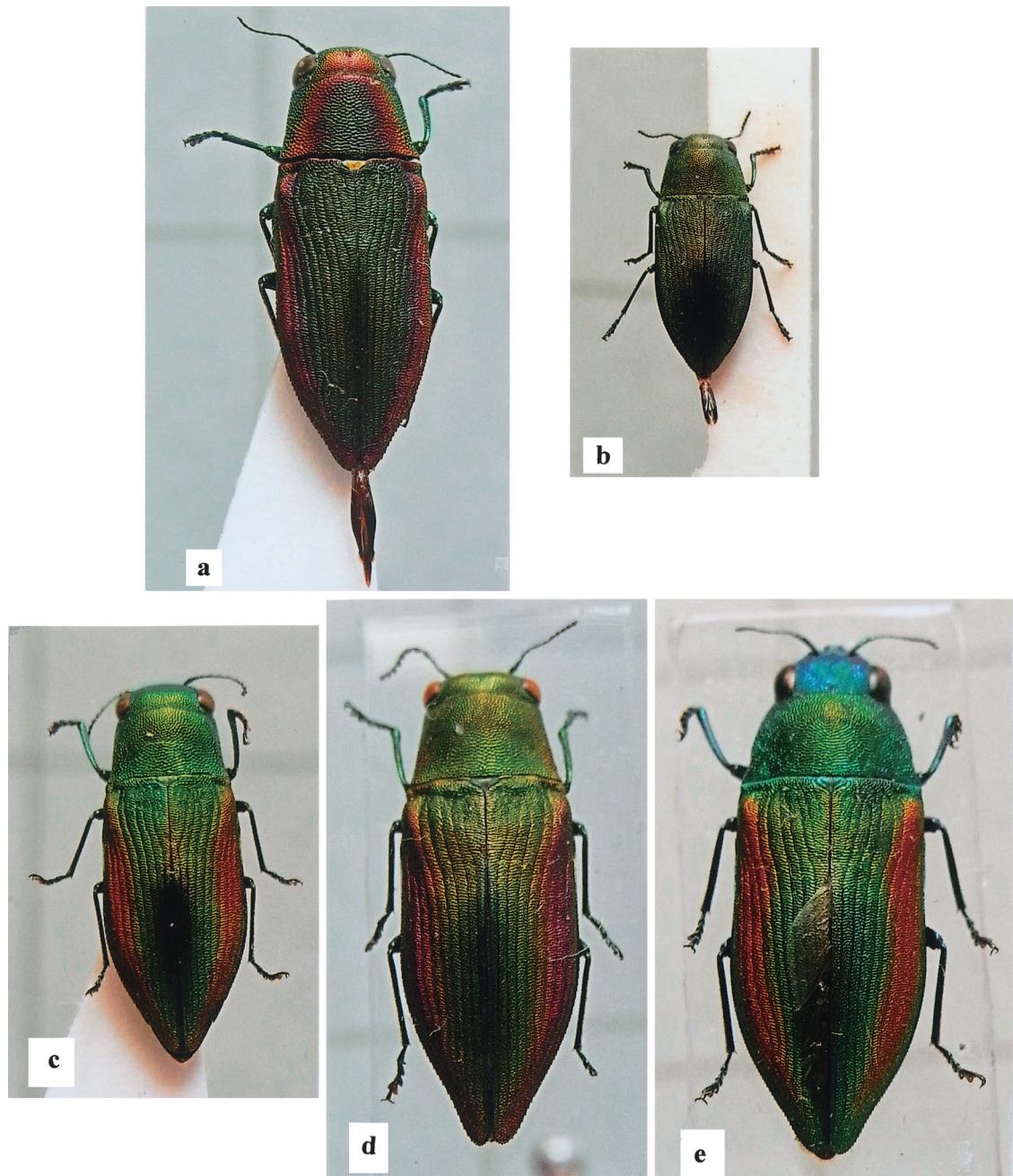


Fig. 2. Habitus of *Philanthaxia* spp. — a, *Philanthaxia takakuwai* sp. nov. (Holotype, 7.8 mm); b, *Philanthaxia sadahiroi* BILY, 2004 (Holotype, 5.6 mm); c, *Philanthaxia purpuriceps* (SAUNDERS, 1867) (7.7 mm); d, *Philanthaxia rufimarginata* (SAUNDERS, 1867) (9.9 mm); e, *Philanthaxia thailandica* BILY, 1993 (Paratype, 11.4 mm).

Notes. This new species is peculiar in the genus *Philanthaxia* in body coloration and shape of male genitalia, though similar to *P. thailandica* BILY, 1933 and *P. sadahiroi* BILY, 2004.

Key to the Species of the Genus *Philanthaxia* from Thailand

The species of genus are divided into two groups in view of body coloration: 1) colorful species (golden green colored or with reddish band species) and 2) black or dark brown colored species. This separation is very easily recognized, but the most important characters are shape of frons (convex, flat or depressed) and structure of claws (with large tooth or simply enlarged at base). Therefore body coloration is used at the first step, and shape of frons and structure of claw are used at the second and third steps in the key, respectively. The other characters such as elytron, lateral side of pronotum, prosternal process, and so on, are also used in the key.

- 1) Body coloration: Green or golden green with golden reddish stripes on elytra.
 1. Frons flat or slightly depressed 2
 - Frons convex 3
 2. Elytra golden-reddish violet, widely dark violet longitudinal stripes along suture; pronotum dark violet (7.2–8.0 mm) *ohmomoi* BILY, 1993
 - Elytra golden-reddish violet, slightly bright golden green longitudinal stripes along suture; pronotum bright golden green (7.0–12.0 mm) *thailandica* BILY, 1993 (Fig. 2-e)
 3. Claws with large tooth at the base. Body golden green with or without reddish longitudinal elytral stripes along lateral side and or suture 4
 - Claws simply enlarged at the base 5
 4. Small species. Eyes projecting beyond outline of head (6.9–8.0 mm) *purpriceps* (SAUNDERS, 1867) (Fig. 2-c)
 - Large species. Eyes less projecting beyond outline of head (7.0–11.0 mm) *rufimarginata* (SAUNDERS, 1867) (Fig. 2-d)
 5. Small-sized species (less than 7 mm). Body green-bronze; eyes projecting beyond outline of head (5.3–7.0 mm) *sadahiroi* BILY, 2004 (Fig. 2-b)
 - Medium-sized species (more than 7 mm) Elytra blueish-green with reddish-purple stripes, lateral sides bright golden green; pronotum reddish-green with a large dark violet circular marking at the center; eyes rather large (7.1–10.0 mm) *takakuwai* sp. nov. (Fig. 2-a)
- 2) Body coloration: Aeneous, broze, dark brown or black.
 1. Claws with large tooth at the base 2
 - Claws simply enlarged at the base 8
 2. Elytral apices not caudiform 3
 - Elytral apices more or less caudiform 4
 3. Small species (less than 6 mm). Body black with slight coppery tinge; frons convex with narrow but deep median groove (5.8 mm) *kwai* BILY, 1997
 - Medium-sized species (more than 6 mm). Body coppery bronze; frons slightly convex (6.6–8.2 mm) *robusta* BILY, 2004
 4. Frons flat or slightly depressed 5
 - Frons convex 6
 5. Body completely black (6.9–10.5 mm) *jendeki* BILY, 2001
 - Body balck with cupreous luster; elytra with violet tinge along lateral sides (6.2–11.0 mm) *aenea* (SAUNDERS, 1867)

6. Medium-sized species. Body black with silky bronze luster; elytra slightly caudiform; eyes strongly projecting outline of head (5.3–8.0 mm) *pseudofrontalis* BILY, 2004

— Large species (7.1–9.0 mm). Body dark bronze; elytra caudiform; frons strongly convex 7

7. Body dark bronze with green tinge; vertex 3.0 times as wide as width of eye; pronotum 2.0 times as wide as long (5.9–8.8 mm) *parafrontalis* BILY, 1997

— Body dark bronze; vertex 4.5 times as wide as width of eye; pronotum 1.5 times as wide as long (6.9–8.4 mm) *frontalis* BILY, 1993

8. Large species (9 mm). Body black with bright brown tinge; frons convex; scutellum large, cordiform, 1.5 times as wide as long *hirtifrons* BILY, 2004

— Smaller species (4.6–7.7 mm). Frons flat or depressed; scutellum small and triangular 9

9. Body bronze; frons flat (5.3 mm) *planifrons* BILY, 2004

— Body coppery-bronze; frons shallowly but distinctly depressed (4.6–7.4 mm) *cavifrons* BILY, 2004

Species Examined

In this paper, the following nine species are examined.

1. *P. aenea* (SAUNDERS, 1867) [Type locality: Laos]

Specimens examined: 2 exs., 27 to 29-IV-1996, Kang Kra Chan, Phetchaburi Prov., C-Thailand, S. OHMOMO leg.; 25 exs., 2 to 8-VI-2002/ 4 exs., 31-V-2003, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.; 6 exs., 1-VI-2003/ 4 exs., 26-V-2004, Khao Bandai It, Petchaburi Prov., C-Thailand, S. OHMOMO leg.; 7 exs., 13-V-2008, KU-farm, Pak Chong, Nakhon Ratchassima Prov., NE-Thailand, S. OHMOMO leg.

2. *P. cavifrons* BILY, 2004 [Type locality: Prachuap Khiri Khan Prov., C-Thailand]

Specimen examined: 1 ex., 26-V-2004, Khao Bandai It, Petchaburi Prov., C-Thailand, S. OHMOMO leg.

3. *P. frontalis* BILY, 1993 [Type locality: Laos] [Hitherto known locality: Petchaburi Prov., C-Thailand (AKIYAMA & OHMOMO, 2000)]

Additional specimens examined: 3 exs., 8-VI-2003/ 2 exs., 15-VI-2003/ 5 exs., 26-V-2004/ 3 exs., 15-V-2008, Khao Bandai It, Petchaburi Prov., C-Thailand, S. OHMOMO leg.; 4 exs., 12-V-2007, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.; 2 exs., 13-V-2008, KU-farm, Pak Chong, Nakhon Ratchassima Prov., NE-Thailand, S. OHMOMO leg.; 25 exs., 22-V-2009/ 17 exs., 19-V-2010/ 17 exs., 19-V-2010, Phrae Buddaha Chai, Saraburi, Saraburi Prov., C-Thailand, S. OHMOMO leg.

4. *P. jendeki* BILY, 2001 [Type locality: Laos]

Specimens examined: 23 exs., 10 to 12-V-2008, Phu Chong Na Yoi, Ubon Ratchathani Prov., NE-Thailand, S. OHMOMO leg.; 27 exs., 13-V-2008, KU-farm, Pak Chong, Nakhon Ratchassima Prov., NE-Thailand, S. OHMOMO leg.; 8 exs., 15-V-2008, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.

5. *P. parafrontalis* BILY, 1997 [Type locality: Phetchaburi Prov., C-Thailand]

Specimens examined: 2 exs., 27 to 29-IV-1996, Kang Kra Chan, Phetchaburi Prov., C-Thailand, S. OHMOMO leg.; 25 exs., 2 to 8-VI-2002/ 20 exs., 15-VI-2003/ 19 exs. 26-V-2004, Khao Bandai It, Petchaburi Prov., C-Thailand, S. OHMOMO leg.; 1 ex., 12-V-2007/ 30 exs., 15-V-2008, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S.

OHMOMO leg.; 1 ex., 13-V-2008, KU-farm, Pak Chong, Nakhon Ratchassima Prov., NE-Thailand, S. OHMOMO leg.; 9 exs., 19-V-2010, Phrae Buddha Chai, Saraburi, Saraburi Prov., C-Thailand, S. OHMOMO leg.

6. *P. pseudofrontalis* BILY, 2004 [Type locality: Prachuap Khiri Khan Prov., C-Thailand] Specimens examined: 14 exs., 23-V-2007/ 36 exs., 14-V-2008, Phra Buddha Chai, Saraburi Prov., C-Thailand, S. OHMOMO leg.; 28 exs., 13-V-2008/ 83 exs., 24-V-2009, KU-farm, Pak Chong, Nakhon Ratchassima Prov., NE-Thailand, S. OHMOMO leg.; 2 exs., 15-V-2008, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.
7. *P. purpriceps* (SAUNDERS, 1867) [Type locality: Laos] [Hitherto known locality: Chiang Mai Prov., N-Thailand (AKIYAMA & OHMOMO, 2000)] Additional specimens examined: 8 exs., 19-VI-2003, Tha Phrae, Khon Kaen Prov., NE-Thailand, S. OHMOMO leg.; 1 ex., 18-VI-2003, Ubol Ratana, Khon Kaen Prov., NE-Thailand, S. OHMOMO leg.; 1 ex., 21-V-2004, Khok Ngam (alt. 820 m), Phu Rua, Loei Prov., NE-Thailand, S. OHMOMO leg.; 13 exs., 24 to 27-V-2005, Klong Wang Chao, Wang Chao, Kamphen Phet Prov., N-Thailand, S. OHMOMO leg.; 20 exs., 5-V-2006, Mae Kradan-kla waterfall, Nong Ya Ploeng, Petchaburi Prov., C-Thailand, S. OHMOMO leg.
8. *P. robusta* BILY, 2004 [Type locality: Prachuap Khiri Khan Prov., C-Thailand] Specimens examined: 3 exs., 22-V-2005, Khao Bandai It, Petchaburi Prov., C-Thailand, S. OHMOMO leg.; 3 exs., 18-V-2010, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.; 12 exs., 19-V-2010, Phrae Buddha Chai, Saraburi, Saraburi Prov., C-Thailand, S. OHMOMO leg.
9. *P. sadahiroi* BILY, 2004 [Type locality: Prachuap Khiri Khan Prov., C-Thailand] Specimens examined: 1 ex., 11-V-2003/ 3 exs., 8-VI-2003, Khao Hin Lek Phai, Hua Hin, Prachuap Khiri Khan Prov., C-Thailand, S. OHMOMO leg.

The type localities and the known localities of following six species not examined in this paper are as follows:

10. *P. hirtifrons* BILY, 2004 [Type locality: Khon Kaen Prov., NE-Thailand (BILY, 2004)]
11. *P. kwai* BILY, 1997 [Type locality: Kanchanaburi Prov., W-Thailand (BILY, 1997)]
12. *P. ohmomoi* BILY, 1993 [Type locality: Indonesia (Sumatra), Malaysia (Peninsula) and Yala Prov., S-Thailand (BILY, 1993)]
13. *P. planifrons* BILY, 2004 [Type locality: Petchaburi Prov., C-Thailand (BILY, 2004)]
14. *P. rufimarginata* (SAUNDERS, 1867) [Type locality: Laos and N-Thailand (BILY, 1993)] [Hitherto known locality: Chiang Mai Prov., N-Thailand (AKIYAMA & OHMOMO, 2000)]
15. *P. thailandica* BILY, 1993 [Type locality: Mae Hong Son Prov., Chiang Mai Prov. and Lamphang Prov., N-Thailand (BILY, 1993)]

要 約

大桃定洋: タイ国産タマムシ科甲虫(第9報)ータイ国産ヒメマルタマムシ属の再検討と1新種の記載。
—— タイ国産のヒメマルタマムシ属 *Philanthaxia* に属する標本を調べ、9種の既知種を確認するとともに、1新種を見い出して *P. takakuwai* sp. nov. と命名した。これらの10種とタイ国産として記載された他の6種を含めた16種の検索表を作成した。

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